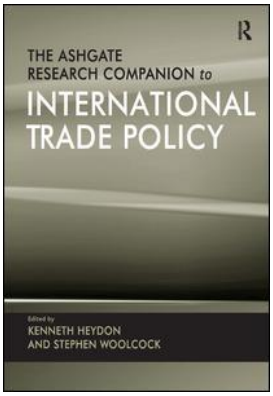

The Ashgate Research Companion To International Trade Policy

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Trade and Investment

Publication details
https://test.routledgehandbooks.com/doi/10.4324/9781315613086.ch11
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Published online on: 19 Jul 2012

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11 ASHGATE RESEARCH COMPANION

Trade and Investment

Sébastien Miroudot

Introduction

The Growth of Trade and Investment

Over the past two decades, the volume of world trade has tripled and the stock of foreign direct investment (FDI) has multiplied almost six times in real terms. By comparison, world gross domestic product (in volume) has multiplied 1.5 times.[1] This expansion of trade and investment at a higher rate than output characterizes the globalization of production (Figure 11.1). Importantly, this is a combination of trade and investment.

Figure 11.1 illustrates the 'second wave of globalization' or 'second unbundling' (Baldwin 2006). The 'first unbundling' refers to the decrease in transportation costs that occurred between 1850 and 1914, resulting in an important increase of trade at the same time that the industrial revolution was triggering modern growth in Western Europe and the United States. Lower transportation costs made it possible to produce goods far from the location where they were consumed. The 'second unbundling' is within firms with the production of goods and services being geographically split. The fragmentation of production started in the 1980s in Japan and the United States. Geographically separating various production stages became more and more attractive in the 1990s with the continuing decline in trade costs due to the information and communication technology (ICT) revolution and policy initiatives to further liberalize trade, such as the conclusion of the Uruguay Round, the creation of the World Trade Organization (WTO), the signing of the General Agreement on Trade in Services (GATS) and, as a second best, a new wave of preferential trade agreements following the adoption of the North American Free Trade Agreement (NAFTA). Trade became much more than just a simple exchange of merchandise across borders. It developed into a constant flow of investment,

[1] WTO International Trade Statistics (2010) and UNCTAD World Investment Report (2010). Calculated for the period 1990–2009, using US GDP deflator for world FDI stock.

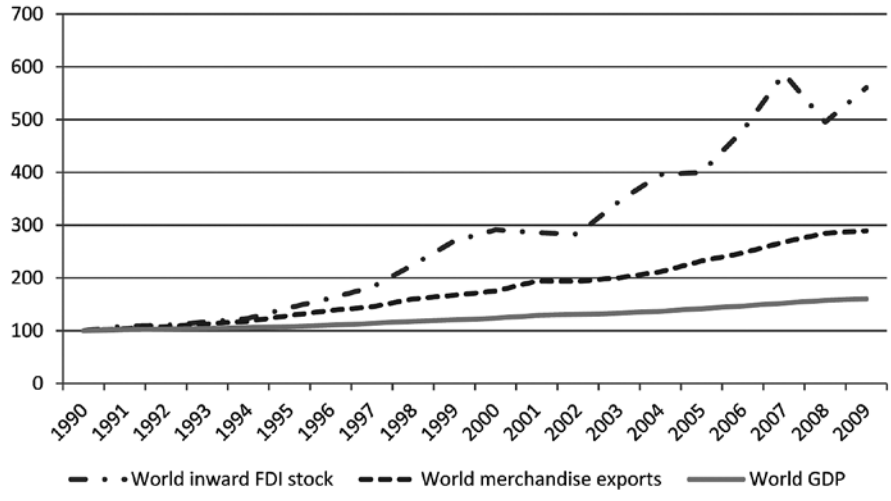

Figure 11.1 The growth of trade, FDI and GDP (1990–2009, volume, 1990 = 100)
Source: *WTO International Trade Statistics* (2010) and *UNCTAD World Investment Report* (2010).

technologies, goods for processing, and business services, in what has been called 'the global value chain' (Sturgeon and Gereffi 2009).

Trade policies have adapted to this new context and trade agreements tend to incorporate provisions on investment that were previously found in Bilateral Investment Treaties (BITs). In 1994, NAFTA was the first preferential trade agreement (PTA) to combine provisions on the protection and promotion of investment with provisions on the liberalization of foreign investment and comprehensive trade in services disciplines. Less than ten PTAs had deep investment provisions in 2000. Their number increased to 56 (out of 190 PTAs notified to WTO) at the end of 2009.[2] The number of new BITs concluded has, on the contrary, been slowing down since 2001 (UNCTAD 2008).

This chapter first looks at the economic determinants of trade and investment to understand the relationship between flows of goods and services and the movement of capital. The second section reviews the recent economic literature on the fragmentation of production, vertical specialization and offshoring to explain why trade and investment are increasingly intertwined. It explains also why investment has grown at a higher rate than trade. The third section describes how trade agreements are catching up with new production models and more often incorporate investment chapters and services chapters that cover Mode 3 trade

[2] Calculation from the author on the basis of the WTO database. A PTA with 'deep investment provisions' is defined as a PTA with provisions on the liberalization and/or protection of investment. Some PTAs have just provisions on the promotion of investment with no real legal binding and are not regarded as investment agreements in this chapter.

in services. The section first reviews multilateral rules on trade and investment and then examines why it is in preferential trade agreements that the interaction between trade and investment is mainly dealt with. The fourth section concludes with policy lessons and challenges for the future.

Trade and Investment: From Substitutes to Complements

In traditional trade theory, trade and investment are regarded as substitutes. In the Heckscher–Ohlin–Samuelson model, the movement of goods is a substitute for the movement of production factors. Capital is assumed to be internationally immobile and through trade capital-scarce countries can benefit from relatively cheaper capital-intensive goods produced in capital-abundant countries. This assumption that trade and investment are substitutes is also the basis of the standard theoretical framework described in the 'proximity–concentration tradeoff' (Brainard 1997).

The Proximity–Concentration Tradeoff

The tradeoff is the following: when multinational firms engage in FDI and produce abroad in the destination market, they can escape trade costs (all the costs incurred when exporting the good from the country of the parent company to the destination market). But while they save on trade costs, firms producing abroad split their production and lose the advantage of scale economies. It is cheaper to produce all the goods in the firm's home plant. The theory thus suggests that FDI occurs only when the benefits of producing abroad (no trade costs) outweigh the loss of economies of scale from producing exclusively in the home country. Trade liberalization (that is, reduced trade costs) should lead to less FDI.

However, the paradox is that since the 1990s FDI has increased much more than trade in the context of trade liberalization (Neary 2009). While there is evidence in favour of the proximity–concentration tradeoff, the theory corresponds to one type of FDI – horizontal FDI – where the firm reproduces abroad the full production process (and thus loses scale economies). In the context of vertical specialization and vertical FDI, firms achieve efficiency by slicing up the production process in a global value chain.

Fragmentation of Production and Vertical Specialization

Once trade costs are low enough to allow the fragmentation of production, firms can minimize the total cost of production by organizing the production into several blocks, each block being produced in the country where the marginal cost is the lowest (Jones and Kierzkowski 1990). Services inputs are needed to link the blocks, such as communication, transport and logistics services, as well as financial and

business services. Setting up affiliates to produce abroad also implies investment costs. As long as the cost advantage of an internationally fragmented production offsets the additional fixed costs of the services inputs and investment costs, the production process is more efficient than if performed in a single country. This is how trade and investment become complements in the context of vertically-integrated firms and how trade liberalization (especially in services sectors) leads to both an increase in trade and in investment flows.

Setting up distribution networks and organizing production internationally also involves more complex firm structures than the one described above. International investment is motivated by strategies that can be 'resource-seeking', 'market-seeking', 'efficiency-seeking' or 'strategic asset-seeking' (Dunning and Lundan 2008) and global firms typically pursue multiple objectives combining several of these motives. Moreover, the location and organization of global value chains is not static. Multinational enterprises (MNEs) constantly adapt their strategies and redefine their boundaries (Mudambi and Venzin 2010). More recently, global firms have also increasingly relied on outsourcing (that does not involve investment) and headquarter activities are more often offshored (Desai 2009).

If trade and investment flows are complements, one can wonder about the causal relationship. Is increasing trade a consequence of FDI or is investment promoted by the liberalization of trade? Several empirical studies have applied causality tests to the complementary relationship between trade and investment. While results vary from one study to another, what is usually found in the literature is that it is FDI flows which increase trade flows, a result consistent with firms' strategies described above. But the causality can run in the other direction as well. For example, Aizenman and Noy (2006) decompose the feedback effects and find that 50 per cent go from FDI to trade and 31 per cent from trade to FDI. The rest represent two-way linkages. Therefore, trade and investment can be described as mutually reinforcing and this is why they are best described as complements.

The Rise of Investment Relative to Trade

As emphasized by Bergstrand and Egger (2010), an important aspect of the growth of trade and investment is that FDI has a higher growth rate than trade. Between 1995 and 2005, the ratio of FDI to trade in Organization for Economic Cooperation and Development (OECD) countries has increased from 48 per cent to 86 per cent (Miroudot et al. 2009). An initial explanation is that FDI includes international mergers and acquisitions (changes in ownership inflate the data even when no new productive capacity is added). This is however not enough to explain the growth of FDI relative to trade and does not explain why FDI was preferred to trade by the foreign investor.

Recent trends in the growth of trade and investment have been prompted by new firm strategies that combine horizontal and vertical FDI. This can be illustrated with the example of the automotive industry (Sturgeon et al. 2008). Political pressure for local production and market demand considerations have driven automakers to

set up final assembly plants in their main markets. For example, in the mid-1980s, Japanese car manufacturers established plants in the United States and European Union. This form of horizontal FDI has reduced trade flows of final goods (less cars exported to these markets) and increased FDI (the substitution effect). But at the same time, automakers have outsourced the production of auto parts and created affiliates to build regional networks and clusters for specialized activities such as automotive design. Horizontal FDI was thus combined with vertical FDI. Traditional suppliers were also asked to establish next-to-final assembly plants and in consequence the global reorganization of the automotive industry has led to more FDI than trade. As FDI is a stock with an important initial movement of capital and lower flows in subsequent years, this increase in FDI characterizes the transition to new production networks and is not likely to be sustained over time.

The rise of investment versus trade is even more pronounced in services industries. In the case of services, the ratio of FDI to trade has increased from 140 per cent in 1995 to more than 250 per cent in 2005. The banking industry illustrates that global value chains are not limited to manufacturing and that the combination of horizontal and vertical FDI described for goods also applies to services. Banks are now highly internationalized and need affiliates for the face-to-face contact with their customers. International banks have developed through horizontal FDI important networks to serve their customers worldwide. But only the end of the value chain requires commercial presence. As most banking activities are services that can be supplied across borders due to their high degree of digitalization (Mudambi and Venzin 2010), vertical specialization has also increased with services provided from financial hubs such as London or New York, as well as from offshore competence centres. The globalization of the banking industry accounts for a significant share of the increase in FDI with many cross-border acquisitions and mergers in the 2000s and more recently in the aftermath of the financial crisis. Cross-border trade in financial services has increased but to a lesser extent.[3]

Another explanation of the rise of investment relative to trade lies in policies. Notwithstanding moves towards trade liberalization, trade costs for goods and services remain high (Miroudot et al. 2010; Novy 2010) while FDI has been widely liberalized and services reforms have decreased FDI costs. Most FDI flows remain between OECD countries that maintain strict disciplines on international investment through the OECD Code of Liberalization of Capital Movements and the Code of Liberalization of Current Invisible Operations. FDI has also been increasingly liberalized in emerging countries. In the OECD FDI restrictiveness index, eight non-OECD economies are now more open to investment than the OECD average (Kalinova et al. 2010). In contrast, multilateral trade negotiations have been stalled at the WTO for the past 15 years. This discrepancy between FDI liberalization and trade liberalization could be another explanation for the rise of investment relative

[3] In the case of financial services, one should also take into account that cross-border trade statistics cannot fully capture the service inputs traded. The rise of investment relative to trade is likely to reflect both the reality of vertical specialization and specific issues in the measurement of trade in services in balance of payments statistics.

to trade. Moreover, in the case of services trade, multilateral and preferential liberalizing commitments are more prevalent for Mode 3 (commercial presence) than for cross-border trade (Marchetti and Roy 2008). For services, the rise of investment relative to trade corresponds to the rise of sales of foreign affiliates relative to cross-border transactions.

Complementary Gains from Trade and Investment

The complementary relationship between trade and investment can also be extended to their positive effects on productivity, growth and development. While the debate on the impact of FDI on development has been controversial in the past, there is a growing body of evidence that FDI benefits the host economy, in particular because of potential productivity spillovers to local firms. FDI spillovers have been found particularly significant in the case of vertical relationships between foreign affiliates and their local suppliers, but the evidence is mixed regarding horizontal spillovers in the same industry.[4] Moran et al. (2005) provide many examples of the positive externalities of FDI but also explain why empirical studies have not systematically found evidence of the positive impact of investment on growth and development. FDI spillovers are not automatic and depend on the conditions into which FDI is introduced. To maximize the gains from FDI, developing countries need an 'absorptive capacity', which can be defined as the propensity of local firms to benefit from foreign presence through adequate human resources and production capacities (Blalock and Simon 2009). There is also a set of policies that determine the ability of foreign investors to enhance productivity in the host economy and the first one is trade liberalization.

Using firm-level data, Lesher and Miroudot (2008) highlight the role of trade openness in the realization of FDI spillovers. In addition to the fact that vertical FDI can happen only if trade costs are low, there are also competitive effects that explain why foreign affiliates are more likely to transfer knowledge in an open trade environment. Protectionism attracts foreign companies seeking rents while shielded from foreign competitors with, at the end, little incentive to innovate and share knowledge with local partners. An open trade regime on the contrary fosters efficiency-seeking FDI and partnerships with local companies.

Trade and Investment in Trade Agreements

As trade and investment are more and more intertwined in the context of international supply chains, countries are increasingly incorporating investment

[4] Foreign affiliates have obviously less incentives to transfer technology to their competitors. Regarding vertical spillovers, a meta-analysis conducted on 57 empirical studies confirms that spillovers to suppliers are positive and economically significant (Havranek and Irsova 2011).

provisions in PTAs instead of BITs. By combining trade liberalization provisions with investment liberalization and protection, these agreements emphasize the complementary relationship between trade and FDI and are empirically found to have a stronger impact on investment than BITs (UNCTAD 2009).

Investment Provisions in Multilateral Agreements

The importance of international investment has long been recognised in multilateral trade negotiations but all attempts to sign a comprehensive agreement on investment have failed so far. The Havana Charter of 1947 included a commitment for the International Trade Organization (ITO) to negotiate an agreement on international investment but the idea was abandoned when the ITO was rejected and the more modest General Agreement on Tariffs and Trade (GATT) came into force. Trade and investment were back on the agenda with the creation of the WTO in 1995. At the Ministerial Conference of Singapore in 1996, it was decided to set up a working group on the relationship between trade and investment and the issue became part of the negotiations in the Doha Development Agenda. However, in 2004, trade and investment comprised one of the Singapore Issues dropped from the negotiations. Another example of aborted effort to reach consensus on international investment is the Multilateral Agreement on Investment, negotiated within the OECD between 1995 and 1998.[5] After three years of negotiations, conflicting ambitions and lack of political will among the protagonists, exacerbated by NGO activism, led to the project being abandoned (Henderson 1999).

These unsuccessful attempts to promote investment in the context of multilateral trade negotiations explain why many countries have now turned to PTAs to address investment issues. However, despite there being no multilateral framework on investment, WTO agreements do include investment-related provisions.

The Agreement on Trade-Related Investment Measures (TRIMs) introduces disciplines regarding the use of investment measures that can restrict or distort trade in goods. The agreement provides an illustrative list of TRIMs that are inconsistent with Article III of GATT (national treatment) or Article XI (quantitative restrictions), such as local content requirements or export requirements. Also called 'performance requirements', these measures consist of government-assigned objectives to firms linked to the authorization of their investment. Trade-related objectives include for example the use of local inputs rather than imported intermediate goods (local content requirement) or a percentage of output to be exported and not sold on the domestic market (export performance requirement). The motivation for governments is to protect domestic producers and the impact of TRIMs is similar to any protectionist measure. In addition, TRIMs were generally not found to be very effective in the context of developing economies where the rationale was to encourage nascent local capabilities (Moran 1998). This is why the

[5] While the text was negotiated among OECD countries, the agreement was open to the signature of other countries and the ambition was to create a true multilateral agreement.

occurrence of trade-related performance requirements has been reduced both in developed and developing countries (UNCTAD 2003).

While the GATS does not mention investment in its scope, this is certainly the multilateral agreement that comes the closest to an international investment accord. GATS Article I defines as trade in services the supply of a service by a service provider from one country, through commercial presence in the territory of any other country (Mode 3 trade in services). 'Commercial presence' is then defined as any type of business or professional establishment. GATS does not introduce rules on investment per se (which is a movement of capital) but on the establishment and provision of services through commercial presence of service providers. As two-thirds of investment flows are in services sectors and there is an overlap between services providers and investors with respect to Mode 3, GATS provides important disciplines on investment that compete with other international investment rules in BITs and PTAs. In particular, GATS offers WTO members the possibility of two types of commitments for Mode 3: market access commitments and national treatment commitments. Market access is defined through a list of limitations that are prohibited if a services market is to be regarded as open (such as no foreign equity limits). National treatment consists of according to foreign services providers a treatment no less favourable than that granted to domestic suppliers.

As a services trade agreement, GATS covers only investment issues related to services but also has a relatively narrow definition of investment. GATS relies on an 'enterprise-based' definition consisting of any type of business or professional establishment where the investor has majority ownership or exercises control (direct investment). In contrast, bilateral rules on investment generally refer to a broader 'asset-based' definition that in addition covers portfolio investment and different forms of tangible and intangible property (such as real estate). By covering both goods and services and being based on a broader definition of investors and investment, some PTAs have more extensive provisions on investment than those found in the GATS and offer a type of trade and investment agreement with no equivalent at the multilateral level. With respect to TRIMs, PTAs also go further in the type of prohibited performance requirements and have stricter disciplines.

Investment Provisions in Preferential Trade Agreements

As we saw earlier, most recent PTAs now include investment provisions. Their number is modest however as compared to the more than 2,500 BITs in force. The major difference between PTAs and BITs is in the type of investment provisions covered. With the exception of agreements signed by the United States and in some cases by Canada and Japan, BITs do not include non-discrimination provisions on pre-establishment. They grant national treatment and most-favoured-nation (MFN) treatment in the post-establishment phase (that is once the investor is established) but lack the essential dimension of market access (that is how the investor first establishes in the market). PTAs, in contrast, focus on national treatment and

MFN treatment in the establishment phase itself and can thus be understood as agreements liberalizing investment. From a political economy perspective, there is a case for dealing with investment liberalization at the same time as trade liberalization. Concessions on investment can be balanced with concessions on trade and countries can deal in a more comprehensive way with market opening issues that today involve both trade and investment.

Two models of PTAs have been identified, one inspired by the provisions found in NAFTA and one following the provisions of GATS. The fact that the scope of GATS is limited to services creates complex interactions between investment and services chapters in PTAs (Houde et al. 2007).

NAFTA-inspired agreements

The architecture of NAFTA-inspired PTAs is characterized by a clear separation between the investment chapter and the cross-border trade in services chapter. Provisions relevant to investment in services are part of the investment chapter. The definition of investment is far-reaching and also covers some types of portfolio investment as well as property. Non-discrimination disciplines (national treatment and MFN treatment) apply with respect to 'the establishment, acquisition, expansion, management, conduct, operation, and sale or other disposition of investments'. In addition, the standard of treatment provision grants the better of national and MFN treatment, while the 'minimum standard of treatment' clause provides for 'fair and equitable treatment and full protection and security'. NAFTA-inspired PTAS generally cover all relevant protection disciplines such as the free transfer of funds, provisions on expropriation and compensation, as well as provision for investor–state dispute settlement.

The far-reaching nature of NAFTA-inspired agreements can also be seen in the negative list approach to liberalizing commitments. National treatment and MFN treatment are granted for all sectors with two lists of reservations, one for existing measures that are non-conforming at the date of the agreement, and another for future measures that gives governments discretion to maintain or to introduce restrictive measures after the agreement has entered into force. The negative list approach is generally seen as being more favourable to liberalization in the sense that commitments are taken for investments in all sectors and only the exceptions listed at the time the agreement is signed can be maintained. There is nonetheless still some discretion left for governments because of the practice of introducing reservations for future measures (that is, new restrictive measures not listed in the agreement). NAFTA-inspired agreements nevertheless not only lock in the investment regime but also include as commitments under the PTA any new measure taken unilaterally by the counterparties. This creates a ratchet effect as, once removed, investment restrictions cannot be reintroduced.

Preferential trade agreements signed by Canada, Mexico and the United States (the three parties to NAFTA) are not surprisingly NAFTA-inspired but the approach has also been exported to Asia where a significant number of bilateral agreements

follow the NAFTA model (for example Chile–Korea FTA, Korea–Singapore FTA and Singapore–Australia FTA).

GATS-inspired agreements

GATS-inspired agreements also have an investment chapter that covers all investments (including in services industries) and provides for the protection of investment with disciplines as far-reaching as in NAFTA-inspired agreements. The difference is however that the market-access provisions of national treatment and MFN treatment of the investment chapter apply only to goods. For services, the analogous non-discrimination principles are found in a separate chapter that deals with trade in services. The treatment of investment in services is therefore influenced by concepts that come from the GATS, with a narrower definition of investment. As in GATS, the MFN principle is a general obligation and applies to all services sectors covered in the agreement. Exemptions can be listed in a negative list. For market access and national treatment, GATS-inspired agreements reproduce the format of GATS schedules of commitments. There is a positive list of sectors where specific commitments are made and then limitations are listed for these commitments. This could explain why the GATS approach has been popular among PTA negotiators. They are on familiar ground when working with GATS-like schedules of commitments and they can more easily strike a deal on the basis of existing multilateral commitments augmented with preferential commitments.

While most agreements can be clearly identified as GATS-inspired or NAFTA-inspired, there are agreements that depart from these two models or try to combine them in a hybrid approach. For example, most of the agreements signed recently by Japan (with the exception of Japan–Chile) deal both with commercial presence and investment in services and include at the same time a GATS-like schedule of commitments as well as a NAFTA-inspired negative list of non-conforming measures. The ratchet mechanism is transposed into the GATS-inspired schedule of commitments with an additional column where Japan commits to bind any new liberalization measure in specific sub-sectors.

Despite important differences, NAFTA-inspired and GATS-inspired agreements offer the same degree of protection for investment and can equally liberalize investment, even if empirically NAFTA-inspired agreements are found to be more ambitious in their scope and sectoral coverage (Fink and Molinuevo 2008; Houde et al. 2007).

Economic Impact of Investment Provisions

The economic impact of investment provisions in trade agreements has been examined in various empirical studies.[6] There is generally a positive relationship

[6] See Miroudot (2009) for a review.

between the negotiation of PTAs with deep investment provisions and increased trade and investment flows. For example, Lesher and Miroudot (2006) examine 24 North–South PTAs and find that the more extensive the investment provisions, the higher the positive impact on investment and, to a lesser extent, trade flows. In the case of Asia, Dee (2007) argues that patterns of investment are already explained by fundamentals rather than by investment provisions of PTAs. When FDI and trade are not driven by the size, income and other market characteristics, Dee finds positive PTA effects for some economies.

Berger et al. (2010) focus on specific types of provisions and point out that guarantees of market access for foreign investors as well as state–investor dispute settlement mechanisms have a positive impact on bilateral FDI flows. PTAs not offering liberal admission or effective dispute settlement leave bilateral FDI unaffected (or can even induce a substitution of trade for FDI).

The literature on the economic impact of BITs has more mixed results. Aisbett (2009) finds no robust relationship between participation in BITs and investment flows, while Busse et al. (2010) have a positive correlation to report when controlling for unilateral investment liberalization. BITs may hence be seen as a substitute for weak institutions by providing protection for investors but not as a substitute for the liberalization of investment. This result is consistent with the fact that most BITs are limited to disciplines in the post-establishment phase and do not deal with market access. The more significant impact of PTAs with investment provisions on FDI can be explained by provisions on market access, national treatment and MFN treatment in the pre-establishment phase. PTAs provide economic incentives for investors (that is, access to the market) in addition to legal incentives (the protection of investment once established). While Berger et al. (2010) highlight the role of liberal admission rules and dispute settlement mechanisms in increasing bilateral FDI flows in PTAs, they find that in the case of BITs investors react to the mere existence of agreements. Their content matters less.

Another economic impact to highlight is that PTAs with deep investment provisions do not seem to introduce severe economic distortions among investors nor do they create a 'spaghetti bowl' as described for trade in goods (Baldwin et al. 2009). Because of leaky rules of origin, the preferential treatment granted in investment PTAs can to some extent benefit investors from third parties. For juridical persons (that is, companies), being established and having substantive business in a country is sufficient to benefit from the more preferential treatment granted to this country. MNEs can therefore invest through their affiliates located in countries that have negotiated the best investment provisions. However, this strategy can be costly and only large MNEs have a network of affiliates that enables them to cherry-pick investment preferences in PTAs. One should not underestimate the risk of economic distortions when there is no level playing field among investors. Investment liberalization through PTAs remains a 'second best' as opposed to the 'first best' of multilateral liberalization.

Conclusion

Main Policy Lessons and Challenges for the Future

As there is evidence that investment provisions can play a positive role in trade agreements, the following question arises: why is there no multilateral effort to harmonize and deepen the liberalization of investment in relation to trade? While trade and investment was one of the Singapore Issues left out of the Doha Development Agenda, the key issue of market access for Mode 3 trade in services is still part of the negotiation. Moreover, the lack of trade liberalization (high trade costs in key sectors, including services industries) may today be one of the most important barriers to FDI now that barriers to the movement of capital have been removed in most countries. While there is a compelling case for discussing investment issues in the WTO, the success or the failure of any such negotiation depends on the tradeoffs and cross-issue linkages between investment and other policy areas. Linking investment to environment or labour issues could be detrimental to the expected welfare gains, but a broader agenda that would include other policies affecting the location of firms could help to achieve consensus (Hoekman and Kostecki 2001).

With the proliferation of PTAs, what could not be achieved multilaterally has to some extent been achieved bilaterally and regionally. There is, however, a risk for developing countries of missing the opportunity of being part of global production networks when they have not negotiated trade agreements with deep investment and services commitments. With the shift of demand and production networks to the South, investment provisions in South–South PTAs should be further developed, as observed in recently signed PTAs in Asia. The multilateralization of investment disciplines – through strengthened MFN provisions, liberal rules of origin or consolidation of PTAs in larger regional trade agreements – could help the least developed countries who lack resources and may be at a disadvantage in bilateral negotiations.

One important lesson from recent changes in world production is that attracting firms to the domestic economy is key to maximize the gains from trade and investment. In the context of vertically specialized value chains, imports are not competing with domestic production. Imports are more often inputs of intermediate goods and services that increase the competitiveness of local firms. Foreign firms are no longer competitors, from whom domestic companies should be protected, but buyers or suppliers that can enhance local capabilities and work with local firms to create an export capacity. The attractiveness of the local economy relies on a variety of policies, where trade policy is only one (important) element, but it also encompasses policies dealing with investment, taxation and competition, as well as the regulation of infrastructure services.

For trade policymakers, the rise of investment relative to trade and the complementary relationship between trade and investment highlight three new policy issues. First, the interests of domestic-owned affiliates located abroad

and foreign-owned companies in the domestic economy are likely to change the political economy of trade negotiations and can provide new incentives for trade liberalization. Blanchard (2007) argues that taking into account the revenue of foreign-owned affiliates and the impact of tariffs on inputs that domestic producers import from their subsidiaries lowers the optimal tariff of countries. An important implication is that opening markets to foreign investors from a partner country should reduce the tariff barriers faced by domestic firms exporting to that country (because the optimal tariff of the partner country becomes lower). FDI liberalization can thus be the driver of trade liberalization from a political economy perspective.

Second, the importance of vertical specialization in the new organization of firms should draw attention in trade agreements to the buyer–supplier relationship. Bargaining issues have been highlighted in the literature in the context of specialized inputs where the supplier has to make relationship-specific investments. The 'hold-up problem' refers to the situation where the parties to a contract (either the buyer or the supplier) underinvest because they fear that the other party will not comply with the contract, as the specialized input is so specific that it has no value outside of the contract. Bargaining issues suggest that trade agreements should go beyond traditional market access concerns and also address domestic measures that influence the relationship between suppliers and buyers (Antràs and Staiger 2008).

Our third policy implication is that standards have an important impact on global value chains and on the relationship between trade and investment (Kaplinsky 2010). Whether public or private, local or international, standards influence the entry of firms into new markets. On the one hand, meeting standards represents a cost and can be a barrier to entry or rule out local producers. On the other hand, standards play a positive role in firm upgrading and can help companies to participate in global production networks. There are policy challenges in harmonizing standards and ensuring that they do not represent trade or FDI barriers, not least for developing countries that are seeking access to global markets.

Because we are in a transition to a world where production is more geographically fragmented and vertically integrated, trade and FDI have markedly increased and created new opportunities for firms in developed and emerging economies. The future of global supply chains is however not assured. Their fragility was revealed in the aftermath of the 2008–2009 financial crisis (Escaith et al. 2010) and as coordination costs increase along the supply chain, an optimal level of fragmentation is ultimately achieved. Firms are also confronted with new challenges, such as environmental concerns related to trade and offshoring.

As previously emphasized, firms constantly have to adapt their strategies and redefine their boundaries. An open trade and investment regime is the best way for policymakers to minimize distortions and facilitate the response of firms to economic and social change. Open markets have a key role to play in helping sustain the dynamism of global supply chains to secure for all consumers the benefits of globalization.

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